Meeting Summary
DNR Clean Air Act Task Force
February 3, 2000 - Madison, WI

Participants: Michael Ricciardi, Madison Gas & Electric; Terry Coughlin, Wisconsin Electric; Ed Wilusz, WI Paper Council; Tom Walker, WI Transportation Builders Association; Rob Kennedy, Citizens for a Better Environment; Keith Reopelle, Wisconsin's Environmental Decade; Lou Skibicki, RTP Environmental Associates; Doug Aburano, U.S. EPA Region 5; Jeff Landsman, Wheeler Van Sickle & Anderson, S.C.; David Donovan, Northern States Power Co. - WI; Gary Van Helvoirt, WI Public Service Corp.; Rob Sherman, Kraft Foods; Dwight McComb, Federal Highway Administration; Marc S. Bentley, WI Motor Carriers Association; Jeff Schoepke, Gov. Thompson's office; Michael Allen, Stafford Rosenbaum; Kendra Bonderud, Legislative Fiscal Bureau; Jim Beasom, Appleton Papers; Jim Albrecth, STS Consultants; Dave Kluesner, International Paper; Jim Klosterbuer, Alliant Energy; Chris Koceja, Mann Brothers; Neil Howell and John Etzler, WI Dept. of Administration; Sally Jenkins, Public Service Commission of WI; Carol Cutshall, Pat Trainer, and Steve Hirshfeld, WI Dept. of Transportation; Lloyd Eagan, Chris Bovee, Sue Hill, Anne Bogar, Tom Karman, Allen Hubbard, Larry Bruss, Bob Lopez and Anne Urbanski, DNR

Handouts (all posted on website): (a) 1-hour SIP Elements; (b) Elements of a Lake Michigan ozone attainment demonstration; (c) Point source NOx control program for a 1-hour ozone SIP; (d) Rate of Progress estimates, updated 2/2/2000; (e) Proposal for attainment of the 1-hour ozone standard in the Lake Michigan region.

Next meeting: Thursday, February 17, 2000, from 9:30 am to noon in the ground floor conference room, Tommy G. Thompson Commerce Center, 201 W. Washington Ave., Madison.

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Discussion

The agenda and previous meeting's summary were reviewed and accepted with no corrections or adjustments.

Phase 2 modeling results: Larry Bruss presented an abridged version of the presentation he made at the January 31 modeling workshop. In summary, ozone monitoring data for 1987-89 resulted in a design value (peak concentration) of 190 ppb for Chiwaukee Prairie; by 1999, this number had been reduced to 134 ppb at Harrington Beach. All ozone violations in the Lake Michigan region are now in eastern Wisconsin. The Lake Michigan states are evaluating the model's performance based on how well it predicts peak ozone concentrations, comparing actual monitored data to modeled (predicted) data. The model has worked reasonably well with the July 1995 data; it does a good job on spatial distribution of peak concentrations, but it tends to underpredict the peak concentrations and to lag about a day behind on when the peaks occur. DNR believes the modeling meets EPA's criteria for model performance.

Bruss outlined the list of control strategy modeling runs done in the two rounds of modeling. Strategy Run 1 (SR1) models only for Clean Air Act-required controls; this was done as a baseline, to measure changes in 2007 compared with other strategies. Bruss outlined several other strategies designated SR 8, 9 , 10, 11 and 12. Other than Iowa, all other neighboring states were modeled as controlling NOx emissions to 0.25 lb./mmbtu for affected sources. Strategies 8 through12 assume Tier 2 and low-sulfur mobile source control programs. The modeling assumed Clean Air Act controls in states beyond the Lake Michigan modeling grid. In addition, SR12 assumes NOx SIP call controls plus Tier 2 and low-sulfur. We needed to look at how NOx and VOC emissions would change with the various strategy scenarios. Emissions data show a big drop in VOC emissions for SR1 to SR1a, almost no additional reductions in SR 8-12, but another big drop in SR12. For NOx emissions, it showed a big drop between SR1a and SR8, then very small reductions between SR 8, 9, 10 and 11. Bruss noted that comparing SR12 and SR12a, the modelers saw a significant drop in ozone levels in the southern part of the modeling domain with some effects closer to Lake Michigan; adding VOC controls close to Lake Michigan resulted in a 2-6 ppb drop in ozone levels near Lake Michigan.

Bruss noted that Wisconsin, Illinois and Indiana also need to demonstrate to EPA that they pass the attainment test, which is a necessary condition for EPA to approve the attainment demonstration. The "deterministic" test has a simple form but is difficult to pass. Wisconsin failed this test. The statistical test has three benchmarks: (1) not more than 3 exceedances per year, with none on any non-severe day; (2) maximum ozone concentration (146 ppb for Wisconsin); and (3) at least 80% improvement in air quality in modeling grid cells where ozone levels are >124 ppb on a severe day. The modeling showed that, for benchmark 1, the region passed for all control scenarios except SR1; for benchmark 2, the region passed only for strategies SR8b, SR12, SR12a and SR12b; and for benchmark 3, the region passed only for SR12a and 12b. Strategy 8b failed to pass benchmark 3 by a single percentage point of improvement. (Another test states can use to demonstrate attainment is the "relative attainment test" that shows that an area's ozone concentrations will not exceed 124 ppb; however, the region does not pass that test using any of the modeled strategies.) The bottom line is that only Strategies 12a and 12b pass all three statistical benchmarks.

In conclusion, Bruss quoted "three great philosophers". Former bureau director Don Theiler once said, "It's a zero-sum game." Lloyd Eagan has said, "The pie is only so big. It may be a different flavor but it doesn't get any bigger." And finally, Bruss has said, "You either get reductions from transport or you get them locally." We are now at "crunch time," Bruss said, when we have to clean up the air.

Regional NOx control strategy -- Lloyd Eagan and Bob Lopez shared the duty of presenting this topic. Eagan compared reducing emissions to needing to lose weight; eventually, a person's rationalizations have to end so the person can move forward toward losing weight. Continuing her weight-loss analogy, Eagan passed around fat-free snacks -- carrots to represent VOC controls and mini-pretzels to represent NOx controls. Lopez then outlined the status of development of a proposed Lake Michigan attainment demonstration. He has worked on Wisconsin's ozone control effort for the past 10 years and now thinks we are finally "over the hump" on trying to finalize a regional strategy that addresses our long-standing air quality problems. Key considerations of the latest round of modeling including: (1) doing refined, intensive, localized analyses to see what kinds of regional or subregional controls make sense and are appropriate to the scale of contributing emissions and air quality impacts; (2) focusing the effort on meeting the one-hour standard, because of current litigation; and (3) building in flexibility to tailor control programs to meet varying concerns of each state; (4) making commitments to mid-course reviews; (5) reducing dependence on litigation; and (6) trying to maintain an efficient approach to controls that are sensitive to cost considerations and electric system and industry issues.

Lopez said that in crafting a specific control strategy, the three states have agreed on these concepts: (1) the strategy must focus on NOx control; (2) some additional VOC controls are necessary, based on the newest modeling; (3) any proposal must provide some certainty to sources as well as a rational glide-path for installing controls as well as for reaching attainment; (4) some defaults must be built in; (5) there must be a chance to review the plan before 2007 to make adjustments; (6) the effort must result in EPA approving our 12/2000 SIP submittal.

Proposal for attainment of the one-hour ozone standard in the Lake Michigan region: Eagan presented a first draft of a three-stage proposal for controls to be implemented in Wisconsin, Illinois and Indiana. WDNR has incorporated some of our stakeholders' previous comments in its discussions with the other states. In the first stage (2003) DNR hopes to provide a system that will set a rough NOx emissions budget statewide. The system will need to be flexible enough to be either a budget or part of a rate-based rule. It also must allow the state to address in-state NOx trading, allow geographically focused controls in-state, allow controls to be spread across sectors. The states would calculate their own emission budgets based on 0.25 lb./mmbtu for utilities and a 50% control level for industrial sources, mainly the paper industry. Lou Skibicki asked whether this plan meets any of the modeled strategies; Eagan said no, but it results from the signals provided by the modeling results. Gary Van Helvoirt asked if controls could be "mixed and matched" in different parts of the state, as long as the total budget was not exceeded; Eagan said yes. Eagan noted that the states are considering having some additional VOC controls in the nonattainment areas as well as in attainment areas that contribute to the nonattainment areas' problems; these most likely would include rules on area sources such as architectural coatings (paints) and consumer products. DNR would try to ensure that these VOC controls could be counted toward Wisconsin's Rate of Progress reductions, and that the NOx control levels established in 2003 are sufficient to guarantee the 2003-07 ROP reductions. The states also

need to determine how to deal with new sources in the region. In a second, follow-up phase during 2004-07, the proposal would initiate an air quality trigger that would require sources to reduce emissions further, and by specific amounts, depending on the severity of any new ozone exceedances or violations. In 2004 the state would look at how much farther we need to go to reach attainment; monitoring data would determine whether any additional controls would be needed.

Jeff Landsman asked what guidance provides the flexibility Eagan mentioned; Lopez said existing EPA guidance (from 1996) enables us to count certain reductions toward our ROP requirements, and a 0.25 emission rate brings us a long way toward that ROP. Landsman asked if DNR had developed any geographic criteria to be used once the statewide budget was established; Eagan said this has not been discussed yet in the regional dialog, but each state would be free to set its own geographic criteria. DNR hopes that the eventual interstate agreement will allow us to create a feasible and approvable plan for 1-hour attainment that balances NOx and VOC controls within our regional responsibility, establishes state budgets for NOx reductions and clear targets for VOC control efforts, allows each state to optimize its control approach to deal with state-specific needs and issues, and enables Wisconsin to craft conditional and "certain" NOx control levels and deadlines to help EGUs plan their control efforts. The draft regional proposal takes into account getting NOx control commitments early in the process from Michigan, Missouri, Kentucky and Tennessee, some of whom already are establishing these controls. Eagan and Bruss both noted that Missouri, Kentucky and Tennessee already have some controls planned or on the books that are more stringent than the 0.25 level.

Eagan noted that this proposal applies only to the one-hour ozone attainment demonstration, not the stayed NOx SIP call. Thus the proposal would not meet NOx emissions budgets for either the NOx SIP call or a possible NOx Federal Implementation Plan. It also would not trigger the NOx allocations in the 1999 Wisconsin budget bill, nor does it address future attainment demonstrations for the 8-hour ozone standard, PM2.5, or regional haze. The proposal would help Wisconsin move toward attainment of the 8-hour ozone standard but it would not get us all the way there. This agreement would set the size of the emissions "pie" for each of the three states, and each would then determine and submit its own SIP. We need agreement with Illinois and Indiana as soon as possible. Lopez noted that some nearby states are able to move more quickly on their rules than Wisconsin DNR can, so they are somewhat ahead of Wisconsin on certain angles of the plan. Bob Fassbender asked DNR staff to put together a table outlining the other states' proposals and the status of the process.

Lopez then outlined several elements of the plan that the three states are still discussing, including details about weight of evidence and types and amount of VOC reductions. The VOC controls in strategies 12b and 8b had a strong ozone-reduction effect; however, the question remains which controls will be doable. Also being discussed are details about how additional reductions would be triggered and how the midcourse correction would be initiated. Skibicki asked if DNR had any sense for how localized the new VOC controls would need to be in order to be effective. Lopez said the modeling did not show a 'bright line' concerning location; thus it might make sense to expand some existing controls into additional areas. Any new controls have to pass the hurdle of how they compare with the cost of going beyond the 0.15 lb./mmbtu NOx emissions rate. Pat Stevens said he thought the negotiations were about getting an agreement on NOx transport. Bruss responded that these negotiations are working on a one-hour attainment demonstration for Wisconsin, Illinois and Indiana. The latest modeling shows not only that NOx reductions will reduce ozone levels, but also that additional localized VOC controls should be very effective in reducing ozone levels exactly where they need to be reduced. VanHelvoirt asked how and when DNR would select the ozone design value that could trigger additional controls after the midcourse correction phase. Lopez said the design value probably will be based on monitoring data from a few key monitors during the 2003 ozone season; since DNR will know by the end of the ozone season which monitors are critical, we can accelerate the quality assurance process on those sites.

Terry Coughlin said the draft program assumes Illinois, Indiana and Wisconsin will have cap-and-trade programs; will the other five states (Iowa, Kentucky, Michigan, Missouri and Tennessee) have a rate-based emission control program? Eagan said Indiana is developed a rate-based rule; also, trading will be intrastate (within Wisconsin) rather than interstate. As part of the three-state agreement, each state will have local VOC controls of its own choosing; the other five states will contribute to our attainment effort by reducing their NOx emissions, thus reducing NOx transport. Fassbender said he thought that we are still far from having a three-state agreement and Wisconsin's proposal seems to him the most stringent of any of the

states, which runs counter to the idea that we are a receptor state for ozone. His constituents will have a hard time accepting a proposal that hurts Wisconsin industry more than those in other states. Eagan said if Indiana and Illinois don't agree to the proposal, Wisconsin will file s. 126 petitions against them; however, they are receptive to this plan. Other states are already moving forward in certain areas where Wisconsin has not acted yet. We are not abandoning the idea that other states are culpable for some of our ozone problems; if they don't move forward on their rules we will file s. 126 petitions against them. Bruss said DNR's proposal addresses transport from outside Wisconsin; most of the VOC reductions will occur in the Chicago area and northwestern Indiana, and the NOx controls in the eight-state area at approximately 0.25 lb./mmbtu should be effective at reducing the base ozone concentrations coming into Wisconsin. Dave Donovan said the utilities' concern is that Wisconsin is getting enough reductions from transport so that the state does not have to do more than its fair share. Eagan said the program would be structured with enough flexibility so that northwestern Wisconsin utilities might not be affected; however this would be a political decision. She also thinks Wisconsin is getting as much reductions as can be expected from the other states. Fassbender said DNR appears to be proposing an automatic ratcheting-down (following the mid-course correction) that does not correspond to any action in the five outlying states; Bruss replied that the other states will reduce their transport contributions to the Lake Michigan region and we don't think we can get much more from them, nor would a 126 petition justify any more reductions from them. Eagan said Wisconsin could file 126 petitions if necessary later on; the alternative is to impose Strategy 12a or 12b controls immediately. Bruss said the just-completed modeling shows that a control program comprising Strategy 8 plus VOC controls would bring the region very close to attainment; after implementing it, if we find the ozone design values are still above 124 ppb, we can implement additional controls. Eagan said the plan's phased approach is similar to recommendations made by many meeting participants concerning the NOx SIP call. We must give EPA a plan that will pass their attainment test, or Wisconsin will get hit with a Federal Implementation Plan (FIP) and then the state will have no flexibility regarding control programs.

Skibicki asked whether the .15 and .20 lb./mmbtu control levels, if triggered, would follow the control programs proposed for the NOx SIP call; Eagan said yes. Jim Beasom asked if the state is considering any economic incentives to encourage industry to make reductions beyond those required in the first round; Eagan said incentives are within the realm of possibility, and the Public Service Commission has already acted to allow utilities to pass emission control costs along to their customers. Carol Cutshall expressed concern that any additional controls necessary after 2003 might be too strict, especially if Wisconsin opts for a .15 emission rate for targeted facilities rather than .25 statewide. Lopez noted that as a result of dialog on the current state budget act, some mechanisms already exist to prevent this from being a problem. Stevens asked whether Wisconsin has parity with Illinois and Indiana in terms of VOC controls. Bruss replied that, in general, we are behind nearby states in terms of RACT requirements, and on par with them on enhanced vehicle inspection/ maintenance. Tom Walker commented over the past five to seven years, Wisconsin has developed an ozone control strategy that sought to maximize reductions from more culpable areas and minimize deep emission reductions in-state. Based on Dennis Koepke's Rate of Progress figures we will have reduced VOCs by 55% and also reduced transport to some degree. We have done much more than anyone assumed back then, and yet we are still not attaining the ozone standard. It appears to him that Wisconsin is a victim of meteorology. He asked how stakeholders can compare Wisconsin's emissions to those of other states and suggested there should be something like an index of VOC and NOx emissions per capita. He thinks stakeholders are not confident that Wisconsin is not doing more than its share. Eagan said she appreciated Walker's concerns; however we have an ozone problem that other states agree to help us with; they are not stonewalling us, and we have done nothing yet to get NOx reductions from our big sources. She hopes that when we get to the midcourse review we can say we have done enough. Keith Reopelle commented that we don't know everything we need or would like to know about transport issues, mechanisms, etc., but emergency room doctors and the mothers of children who go to the emergency room during ozone episodes know more than they want to. He said Wisconsin should err on the side of public health, and he cannot believe that people who are parties to lawsuit seeking to prevent more emission cuts can make the points they've made with a straight face If they really feel that strongly about reducing NOX emissions from other states they should go back to their bosses and recommend to them that they withdraw their lawsuit on the NOX SIP call.

Outline of an evolving NOx control program -- Tom Karman provided a handout, "Point source NOx control program for 1-hour ozone SIP." This included a map of five states (Wisconsin, Illinois, Indiana, Michigan and Missouri) showing major industrial NOx emissions sources, both large sources identified in the NOx SIP call and boilers in the 100-250 MMBTU "medium" range. Another map showed emission density from individual sources, in tons per day emitted by each facility. Large source emissions totaled 272 tons per day in Indiana (including 1 source with 110 tpd), 133 in Illinois and 36 tpd in Wisconsin. Medium source boiler emissions totaled 152 in Illinois, 26 in Indiana and 37 in Wisconsin. Fassbender asked DNR to clarify if the program outline is DNR's unilateral approach or similar to other states' approaches; Bruss replied that Illinois was very enthusiastic about this proposal, and Indiana's SIP already includes industrial NOx controls. He also said Wisconsin is very close to an agreement with Illinois and Indiana. Lopez noted that a point source NOx control program is a specific SIP element that Wisconsin must develop regardless of whether we reach an agreement with Indiana and Illinois or file 126 petitions against them; we must submit this as part of our December 2000 SIP to avoid a FIP. Fassbender said his point was that DNR has presented a strategy that applies only to Wisconsin until the other states are solidly on board, so it should be framed as a Wisconsin, rather than regional, strategy.

Karman said the program focuses on existing sources and could be crafted specific to each industrial sector. At the minimum DNR is committed to facility averaging or an emissions trading program across industry sectors that would be air-quality-neutral. The program allows flexibility to consider a broader range of source sectors. The structure will account for large emitters that were not covered in the NOx SIP call but possibly have local impacts. The program also can be developed with geographic flexibility to optimize the impacts of various air quality controls. As for timing of controls, we need a guaranteed high level of reduction by the 2003 ozone season, followed by more, if necessary, by 2007; the less reductions are made by 2003, the higher the risk of needing additional controls in 2004-07. If the regional agreement is concluded along the lines previously mentioned, Wisconsin could pursue either a mass-budget approach or an emission rate approach to reducing emissions. Coughlin asked if all three states had agreed upon an ultimate mass cap on NOx emissions; Karman said all three were favorable to that concept. Karman said additional questions need answering, for instance, what are the real available emission reductions from some potential options, costs of specific control options. Eagan said Wisconsin expects to see big NOx reductions from other states. Indiana's program will primarily address boilers, while Illinois' will deal mostly with cement kilns and internal combustion engines. Wisconsin has a lot of gas fired sources, including eight large boilers whose emissions are already below SIP call levels. Wisconsin would get an average of 53% actual gross reductions from 1995 emission levels under this plan. Karman showed several maps of Wisconsin with daily tons of NOx emissions by county. Currently five counties (Kenosha, Milwaukee, Columbia, Sheboygan and Brown) each have 30-100 TPD of NOx emissions, while Wood and Marathon counties each have 20-30 TPD. Reductions at SIP call levels would result in no counties having 30-100 TPD emissions, and only 1 at 20-30 TPD. Similarly, combustion modifications to optimize low NOx burners would result in only two counties having 20-30 TPD emissions.

Updated schedule -- Lopez said some Air Management staff outside the Ozone Section will help with specific tasks for the December 2000 SIP submittal, and an internal VOC workgroup is being reconvened. He has changed a few milestones on the overall schedule, as noted in his handout. He anticipates holding public hearings on the draft rule package in June 2000, and assumes there will be at least one informational meeting in affected areas, as we did with the NOx SIP call. We need final action by the Natural Resources Board and legislative concurrence by fall 2000. In the short term, at the next two meetings, we need more dialogue on refining our strategy, updates on the regional dialog, more detail about discrete components of the SIP, and a narrower discussion of VOC control options; we should also talk about a more Wisconsin-specific modeling effort as well as what is achievable among the three states. The March 9 meeting will include a summary of the draft SIP strategy and more formal numbers on Rate of Progress; DNR hopes the regional agreement is more solidified by then and that we have a feel for how EPA will respond to it. The Conformity Workgroup should give a report at that meeting. At the February 17 meeting DNR will present a draft, skeletal perspective on VOC controls.

Eagan noted that the meeting covered a lot of ground; and she said today's presentations would be posted on the DNR website.